

FILE 'USPATFULL, JAPIO, PATOSEP, WPIDS' ENTERED AT 06:56:01 ON 19
JAN 1999

L1 0 S (CHIP CARRIER) (P) (BOARD) (P) ((THERMAL) (P) (EXPANSION) (P) (
L2 1 S (CHIP CARRIER) (P) (BOARD) (P) ((THERMAL) (P) (EXPANSION) (P) (
L3 1 S (CHIP CARRIER) (P) (BOARD OR SUBSTRATE) (P) ((THERMAL) (P) (E
L4 0 S (CHIP CARRIER) (P) (SUBSTRATE) (P) ((THERMAL) (P) (EXPANSION)
L5 1 S (SUBSTRATE) (P) ((THERMAL) (P) (EXPANSION) (P) ("PPM/C")) AND
L6 6 S (BOARD) (P) ((THERMAL) (P) (EXPANSION) (P) ("PPM/C")) AND (SO
L7 1 S (CHIP CARRIER) AND ("17-20.TIMES.10.SUP.-6 PPM/C")
L8 2 S (CARRIER) AND ("17-20.TIMES.10.SUP.-6 PPM/C")
L9 1 S (MODULE) AND ("17-20.TIMES.10.SUP.-6 PPM/C")
L10 2 S (BOARD OR SUBSTRATE) AND ("17-20.TIMES.10.SUP.-6 PPM/C")

=> s (chip carrier or
module) (P) (substrate) (P) ((thermal) (P) (expansion) (P) ("ppm/C")) and (solder
balls or solder bumps)

2 FILES SEARCHED...

L11 0 (CHIP CARRIER OR MODULE) (P) (SUBSTRATE) (P) ((THERMAL) (P) (EXP
ANSION) (P) ("PPM/C")) AND (SOLDER BALLS OR SOLDER BUMPS)

=> s (chip carrier or
module) (P) (board) (P) ((thermal) (P) (expansion) (P) ("ppm/C")) and (solder balls
or solder bumps)

2 FILES SEARCHED...

L12 1 (CHIP CARRIER OR MODULE) (P) (BOARD) (P) ((THERMAL) (P) (EXPANSI
ON) (P) ("PPM/C")) AND (SOLDER BALLS OR SOLDER BUMPS)

=> s (chip carrier or module) (P) (board or
substrate) (P) ((thermal) (P) (expansion) (P) ("ppm/C"))

1 FILES SEARCHED...

L13 1 (CHIP CARRIER OR MODULE) (P) (BOARD OR SUBSTRATE) (P) ((THERMA
L) (P) (EXPANSION) (P) ("PPM/C"))

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```
L1      0 S (CHIP CARRIER) (P) (BOARD) (P) ((THERMAL) (P) (EXPANSION) (P) (
L2      1 S (CHIP CARRIER) (P) (BOARD) (P) ((THERMAL) (P) (EXPANSION) (P) (
L3      1 S (CHIP CARRIER) (P) (BOARD OR SUBSTRATE) (P) ((THERMAL) (P) (E
L4      0 S (CHIP CARRIER) (P) (SUBSTRATE) (P) ((THERMAL) (P) (EXPANSION)
L5      1 S (SUBSTRATE) (P) ((THERMAL) (P) (EXPANSION) (P) ("PPM/C")) AND
L6      6 S (BOARD) (P) ((THERMAL) (P) (EXPANSION) (P) ("PPM/C")) AND (SO
L7      1 S (CHIP CARRIER)AND ("17-20.TIMES.10.SUP.-6 PPM/C")
L8      2 S (CARRIER)AND ("17-20.TIMES.10.SUP.-6 PPM/C")
L9      1 S (MODULE)AND ("17-20.TIMES.10.SUP.-6 PPM/C")
L10     2 S (BOARD OR SUBSTRATE)AND ("17-20.TIMES.10.SUP.-6 PPM/C")
```

=> s (chip carrier or
module) (P) (substrate) (P) ((thermal) (P) (expansion) (P) ("ppm/C")) and (solder
balls or solder bumps)

2 FILES SEARCHED...

```
L11      0 (CHIP CARRIER OR MODULE) (P) (SUBSTRATE) (P) ((THERMAL) (P) (EXP
          ANSION) (P) ("PPM/C")) AND (SOLDER BALLS OR SOLDER BUMPS)
```

=> s (chip carrier or
module) (P) (board) (P) ((thermal) (P) (expansion) (P) ("ppm/C")) and (solder balls
or solder bumps)

2 FILES SEARCHED...

```
L12      1 (CHIP CARRIER OR MODULE) (P) (BOARD) (P) ((THERMAL) (P) (EXPANSI
          ON) (P) ("PPM/C")) AND (SOLDER BALLS OR SOLDER BUMPS)
```

=> s (chip carrier or module) (P) (board or
substrate) (P) ((thermal) (P) (expansion) (P) ("ppm/C"))

1 FILES SEARCHED...

```
L13      1 (CHIP CARRIER OR MODULE) (P) (BOARD OR SUBSTRATE) (P) ((THERMA
          L) (P) (EXPANSION) (P) ("PPM/C"))
```

=> s (chip carrier or substrate or board or module) and (thermal expansion)

```
105733 CHIP
300095 CARRIER
2590 CHIP CARRIER
      (CHIP(W)CARRIER)
266451 SUBSTRATE
159590 BOARD
84517 MODULE
307602 THERMAL
190606 EXPANSION
47440 THERMAL EXPANSION
      (THERMAL(W)EXPANSION)
L1 17057 (CHIP CARRIER OR SUBSTRATE OR BOARD OR MODULE) AND (THERMAL
EX PANSION)
```

=> s ".times.10.sup.-6"

```
876584 "TIMES"
2115674 "10"
592148 "SUP"
2172550 "6"
L2 44830 ".TIMES.10.SUP.-6"
      ("TIMES"(W)"10"(W)"SUP"(W)"6")
```

=> s l1 and l2

L3 2253 L1 AND L2

=> s (glass filled epoxy or FR-4 or glass epoxy)

```
364533 GLASS
350618 FILLED
113060 EPOXY
303 GLASS FILLED EPOXY
      (GLASS(W)FILLED(W)EPOXY)
20615 FR
2343799 4
844 FR-4
      (FR(W)4)
364533 GLASS
113060 EPOXY
2404 GLASS EPOXY
      (GLASS(W)EPOXY)
L4 3416 (GLASS FILLED EPOXY OR FR-4 OR GLASS EPOXY)
```

=> s l3 and l4

L5 102 L3 AND L4

Structured Search

Database
to Search:

US Patents	▲
Japanese Patents	
European Patents	
USOCR Patents	▼

Searchable
Index:

Basic Index (BI)

Term 1
text:

Operator:

AND ▼

Proximity Distance:

0

Searchable
Index:

Basic Index (BI)

Term 2
text:

Display

40

Starting With #:

1

In Display Format:

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EPO	#L2	29	<u>L3</u>	Thu Jan 28 14:35:33 1999
EPO	"chip carrier"/BI AND "thermal expansion"/BI	29	<u>L2</u>	Thu Jan 28 14:35:16 1999
USPAT	"chip carrier"/BI AND "thermal expansion"/BI	689	<u>L1</u>	Thu Jan 28 14:35:04 1999